

## 4. CHEMICAL AND PHYSICAL INFORMATION

### 4.1 CHEMICAL IDENTITY

Information regarding the chemical identity of carbon tetrachloride is located in Table 4-1.

### 4.2 PHYSICAL AND CHEMICAL PROPERTIES

Information regarding the physical and chemical properties of carbon tetrachloride is located in Table 4-2.

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**Table 4-1. Chemical Identity of Carbon Tetrachloride**

Characteristic	Information	Reference
Chemical name	Carbon tetrachloride	IARC 1979
Synonym(s)	Carbona; carbon chloride; carbon tet; methane tetrachloride; perchloromethane; tetrachloromethane; benzinoform	HSDB 2003
Registered trade name(s)	Benzinoform; Fasciolin; Flukoids; Freon 10; Halon 104; Tetraform; Tetrasol	IARC 1979
Chemical formula	CCl <sub>4</sub>	IARC 1979
Chemical structure		IARC 1979
Identification numbers:		
CAS registry	56-23-5	NLM 1988
NIOSH RTECS	FG4900000	HSDB 2003
EPA hazardous waste	U211 D019	HSDB 2003
OHM/TADS	7216634	HSDB 2003
DOT/UN/NA/IMCO shipping	UN1846 IMCO 6.1	HSDB 2003
HSDB	53	HSDB 2003
NCI	No data	

CAS = Chemical Abstracts Service; DOT/UN/NA/IMCO = Department of Transportation/United Nations/North America/International Maritime Dangerous Goods Code; EPA = Environmental Protection Agency; HSDB = Hazardous Substances Data Bank; NCI = National Cancer Institute; NIOSH = National Institute for Occupational Safety and Health; OHM/TADS = Oil and Hazardous Materials/Technical Assistance Data System; RTECS = Registry of Toxic Effects of Chemical Substances

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**Table 4-2. Physical and Chemical Properties of Carbon Tetrachloride**

Property	Information	Reference
Molecular weight	153.82	Lide 1993
Color	Colorless	Verschueren 1983
Physical state	Liquid	Verschueren 1983
Melting point	-23 °C	Lide 1992
Boiling point	76.5 °C	Lide 1992
Density	1.594 g/mL	Lide 1992
Odor	Aromatic, sweet	HSDB 2003
Odor threshold:		
Water	0.52 mg/L	IRIS 2003
Air	10–71,000 mg/m <sup>3</sup> 96 ppm (600 mg/m <sup>3</sup> ) 60–1,500 mg/m <sup>3</sup>	Verschueren 1983 Amoore and Hautala 1983 Ruth 1986
Solubility:		
Water at 20 °C	800 mg/L	Verschueren 1983
Organic solvent(s)	Miscible	HSDB 2003
Partition coefficients:		
Log K <sub>ow</sub>	2.64	EPA 1984
Log K <sub>oc</sub>	2.04	Kenaga 1980
Vapor pressure at 20 °C	90 mmHg	Verschueren 1983
Henry's law constant:		
at 25 °C	2.94x10 <sup>-2</sup> atm·m <sup>3</sup> /mol	Yaws et al. 1991
at 24.8 °C	3.04x10 <sup>-2</sup> atm·m <sup>3</sup> /mol	HSDB 2003
at 20 °C	2.04x10 <sup>-2</sup> atm·m <sup>3</sup> /mol	Tse et al. 1992
at 30 °C	3.37x10 <sup>-2</sup> atm·m <sup>3</sup> /mol	Tse et al. 1992
Autoignition temperature	Nonflammable	HSDB 2003
Flashpoint	Nonflammable	HSDB 2003
Flammability limits	Nonflammable	HSDB 2003
Conversion factors		
ppm (v/v) to mg/m <sup>3</sup> in air (25 °C)	1 ppm = 6.39 mg/m <sup>3</sup>	HSDB 2003
mg/m <sup>3</sup> to ppm (v/v) in air (25 °C)	1 mg/m <sup>3</sup> = 0.16 ppm	Verschueren 1983
Explosive limits	No data	